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THE NESTING HABITS OF THE ALASKA WREN

By HAROLD HEATH

WITH THREE PHOTOS

THE GROUP of birds that among others includes the common wren of Europe and the American winter wren is widely distributed throughout the northern hemisphere; and considering its extensive range the amount of geographical variation it displays is remarkably small.' Extending from eastern Siberia through China, Japan and the Kuriles, it becomes differentiated into seven closely related island races that constitute a connecting link with the North American mainland representatives. Without going into detail concerning the distribution of these seven races it may be said that geographically speaking the Unalaska Island representative holds a central position with three races occupying distinct, isolated positions along the Aleutian chain to the westward; while to the eastward, within a somewhat shorter distance, we find the birds of the Semidi and Kodiak islands. The home of the Alaska or Pribilof Wren (*Nannus troglodytes alascensis*) is two hundred miles to the north.

The birds of Unalaska Island and the races to the westward appear to be closely allied. Those of the Semidi Islands, on the other hand, are not as intimately related to the Unalaska form as they are to the subspecies inhabiting the Andreanoff archipelago two hundred miles or so to the westward of Unalaska. Still more remarkable is the position of the Kodiak Wren that intergrades with the Pribilof type nearly seven hundred miles away. This last named subspecies also shows a close resemblance to the wrens of the Andreanoff group, four hundred miles distant across the waters of Bering Sea.

With these data¹ in mind it is interesting to consider a statement persistently made by some of the Aleut population of St. George Island. It is an unquestioned fact that the number of wrens on this small, three-by-eight mile mass of rock undergoes very material fluctuations from time to time. In one year as many as forty pairs have been noted by these sharp-sighted, active observers, and it is said to be equally true that during at least two summers, separated by considerable intervals of years, not a single wren has been observed.

¹Derived from Harry C. Oberholser's paper, "Notes on the Wrens of the Genus *Nannus* Billberg": Proc. U. S. Nat. Mus., vol. 55, 1919, pp. 223-236.

The explanation offered to account for the restocking of the island is that there are occasional migrations, small perhaps, but existent nevertheless, of birds from the Aleutian chain. Now there are certain difficulties in the way of accepting such a bit of evidence. If the Pribilof Wren remains the same from decade to decade, then the immigrants in question must come from distant Kodiak as all of the other races are distinct. It is true that each year land birds of other species, lost in the fogs or blown out of their course by storms, make their way to the Pribilofs; but in the present case, neglecting the tax on the bird's physical powers, one cannot conceive of such a delicate adjustment of the forces of nature whereby a few inhabitants of a very circumscribed area are driven into an equally well defined and devastated region at exactly the proper time.

A more reasonable explanation is that, even in the most severe winters, or when foes are more than usually abundant, a few individuals are preserved.

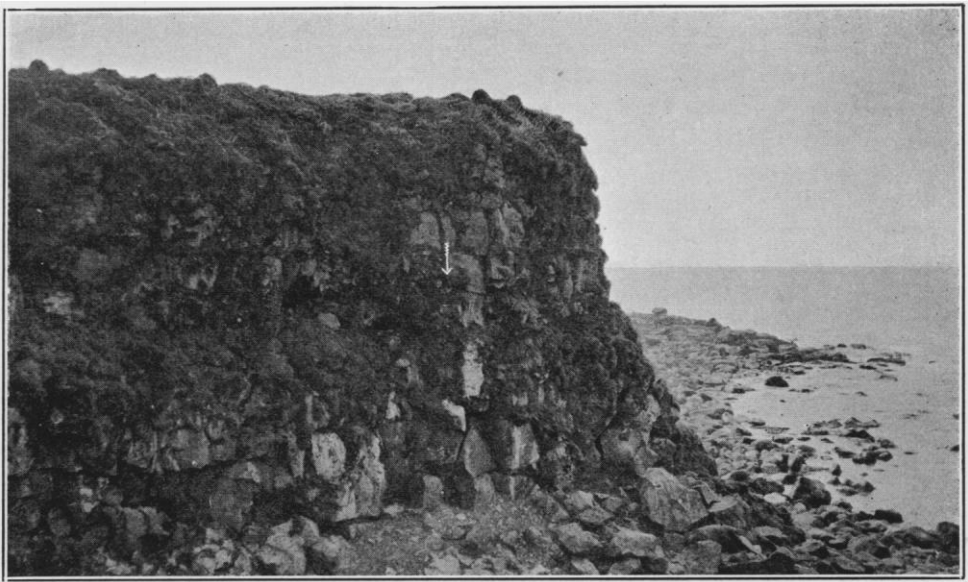


Fig. 7. NESTING SITE, INDICATED BY ARROW, OF ALASKA WREN; ST. GEORGE ISLAND.

This past year is a case in point. The winter of 1919 was the most severe in fifty years, and at the instigation of Dr. G. Dallas Hanna, naturalist of the fur seal herd at that time, a very careful search was made of all of the islands of the Pribilof group. Just one pair of wrens was seen along the south coast of St. George Island, and, though a most tenuous thread, it is to be hoped that this pair may unite the past with an extensive future population.

Until recent years the wrens on the Pribilof Islands were strictly limited to the island of St. George. In 1915, however, six individuals were observed by Dr. Hanna on St. Paul Island, and of these, three were secured. None, so far as I now recall, have since been noted there, but in the summer of 1918 a considerable number were seen on Otter Island, a small body of land four miles to the southward. In the summer of 1917 I noticed two individuals near the village of St. George, but owing to lack of time no attempt was made to study

their habits. In the year 1918 it was my good fortune, while investigating certain features of the fur seal herd, under the auspices of the Bureau of Fisheries, to be stationed on the island of St. George during the greater part of May and the first half of June. An unusual number of wrens were seen about the village during this period, and when time permitted were watched with more than usual interest. The more important results of the investigation are recorded in the following paragraphs.

Throughout the summer at least, these diminutive creatures confine their activities to the perpendicular cliffs and the adjacent boulder-strewn beach where they prove to be more than usually inconspicuous, for several reasons. In the first place their brownish coats harmonize almost perfectly with the weathered basaltic rock and the encrusting lichens, and this, together with their habit of slipping along the face of the cliff by very short flights, or moving mouse-like through the grass, or entering crevices of the cliff or beneath the beach boulders to appear again several feet distant, renders it most difficult to follow their movements for many minutes together. Also, during the month of May and the first half of June—the length of my sojourn on St. George Island—the weather was anything but ideal. Rain, dense fogs, or at least heavily overcast skies, with piercing winds and a temperature of not over fifty degrees, placed a heavy tax on one's powers of endurance and eyesight. Furthermore, the almost incessant incoming and outgoing stream of least, crested and paroquet auklets interspersed with kittiwakes, puffins and murre, and the movements of these species on the cliffs, produce a bewildering effect which tends to blot out minor details. However, as I shall now attempt to show, there are a few fairly distinct periods during the breeding season of this wren when its movements are so definite and regularly repeated that the discovery of the nest is a comparatively easy task.

During the winter, when the voices of other birds are stilled and the sound of the surf is muffled by the ice, the song of this hardy northerner can doubtless be heard in its entirety, and is declared by Mr. Henry Elliott to be of a highly agreeable, cheery character. In the summer, on the other hand, the lower or at least the weaker notes are usually lost amid the general uproar, and the resultant effect bears a strong resemblance to the creaking of a non-lubricated and rapidly pushed baby buggy. It is cheery only insofar as it indicates that a nest is or will be built within a thousand feet; for each pair of these birds clings tenaciously to a fairly definite beat.

At the outset be it known that the male is almost utterly useless when depended upon to disclose the presence of the nest, until after the young are hatched. In carefree fashion he explores the cracks and crannies of the cliffs for half-frozen bugs and flies, or repairs to a commanding position at the upper margin of the cliff, where he delivers himself of his uncoiled song; or tiring of this he flies a quarter of a mile or so along the coast to sneak back a few minutes later to the same old stand. In three instances only, have I seen the male fly to the neighborhood of the female or the nest during the building or incubation period, and his stay in every case was of brief duration.

During this time the female may or may not be in evidence, and if discovered her activities are usually found to be essentially the same as those of her mate. If so—and an hour's watching will generally settle the matter—it is economy of effort to postpone the search for the nest until the morrow. How-

ever, if the female is in the midst of house building, no better time can be found to locate her nest for, in spite of intruders, even at a distance of a few feet, she works with feverish activity and with a directness of flight that can scarcely escape the observation of even an untrained eye. Nevertheless, this period of construction is frequently interrupted by flights to the beach or along the cliff in search of insects, or for a period of song on some lofty point, or she too may dash out of sight far up the coast to return after a period of from five to thirty minutes.

Another favorable time for the location of the nest is during the incubation period. Four nests under observation showed that the female remains

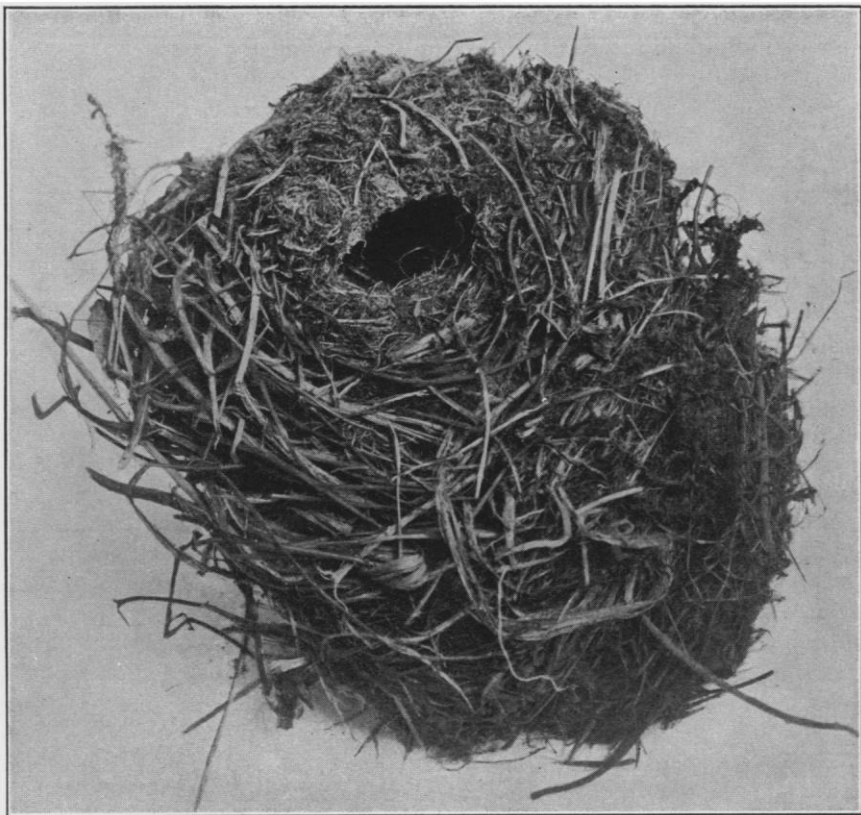


Fig. 8. NEST OF ALASKA WREN; ABOUT ONE-HALF NATURAL SIZE.

upon the eggs, whatever the character of the day or the stage of incubation, for a period ranging from eighteen to twenty-one minutes. She then feeds from two to five minutes. Here also her flight is relatively direct, in marked contrast to her usual journey along the cliffs, and is unmistakable after a brief experience. The recorded habits of several other birds indicate a fairly definite daily program during the breeding season, but, so far as I know, none are so timed to the minute as the Alaska Wren.

All of the nests discovered in 1918 were in the faces of cliffs anywhere from twenty-five to one hundred feet in height, and were placed at elevations

varying from eight to one hundred feet. The spot chosen may be a crevice between shattered blocks of rock, or in a small blowhole in the ancient lava flow, or, more frequently, underneath banks of moss where rain and frost have excavated cavities of tidy size. In three instances the nesting site had been chosen the year before, the new nest being built upon the remains of the old one. In my experience the nest is never hidden far beneath the general surface of the cliff. Of twelve nests described in my field notes four were plainly visible, while the others were merely concealed by an overhanging fringe of grass or moss or by a few small shattered scales of rock. Four other nests were placed in cracks at a considerable elevation and in overhanging cliffs that effectually prevented a close examination.

The nest of the Alaska Wren is indeed a work of art, with the materials composing it bearing a definite relation to the nature of its surroundings. Generally speaking, it is a globular, more or less bulky affair with the entrance at one side. When situated in a lava bubble or in cavities where the adjacent rock is relatively dry, it usually consists of an external sheath of moss, thick or thin, according to the size of the space to be filled. Where the soil inclines to be soggy the roof alone is built of moss (at least in three instances) to absorb the moisture and prevent its precipitation upon the sitting female. Farther down, at the sides of the nest, it rests upon a meshwork of grass and roots that not only drains away the water from above, but permits of rapid drying. To determine the correctness of this theory a nest of this type was brought in from the field, and was left overnight under the slow drip from a water tap. The next morning the mossy roof was soaked and the grassy base adrip, but not a drop of water had made its way into the interior. While a nest of this construction operates satisfactorily during periods of intermittent rain it is altogether likely that the lining itself must eventually absorb moisture in excessively damp situations; whereupon it may be abandoned until a later time when the soil is free from ice and the temperature is higher.

The lining of the nest forms a heavy feltwork of which delicate roots and a fine filamentous lichen form the chief constituents. With these are usually associated the feathers of the least auklet (and other birds to a less degree), fox hairs, and in late years, the hair of the reindeer. The long white hairs, found in the nest described by J. A. Allen², and believed to be those of the polar bear, were probably from the bleached-out winter coat of the blue fox that is shed in the spring. Those examined microscopically this year were all from this source; and besides, no polar bear has been known to have touched the shores of the Pribilofs, at least in recent years.

With the aid of a field glass one can usually determine more or less accurately the various stages of the nest-building process. Where the female is bringing in bits of moss or grass stems the external sheath is obviously undergoing construction, while feathers and fluffy bill-loads of lichen indicate the finishing touches. This period of restless activity on the part of the female finally comes to a close, and the quiet egg-laying season is ushered in. Never yet have I seen either the female or the male about the nest during the week when the eggs are being laid, and in most cases they are seemingly absent altogether, probably at some distant point along the coast.

In the majority of the nests examined this year the number of eggs laid

²Nest and Eggs of the Alaskan Wren, Bull. Nutt. Orn. Club, II, 1877, p. 82.

is seven. Six may be the complement. An Aleut patriarch told me that twelve eggs are the usual number, and the native who collected the nest described by Allen reported the same; but in view of the fact that but two eggs were saved of this clutch it is evident that conclusive proof of such an excessive number is lacking. On the other hand a young, intelligent native boy told me that he had examined several wren's nests during the past ten years, and had never found more than seven eggs or young. Furthermore he reported that in olden times the natives could not count accurately, and that when they used the number twelve (learned from sailor-men) it merely meant a considerable number and was not definite. It may be added that Dall, in speaking of this wren, re-

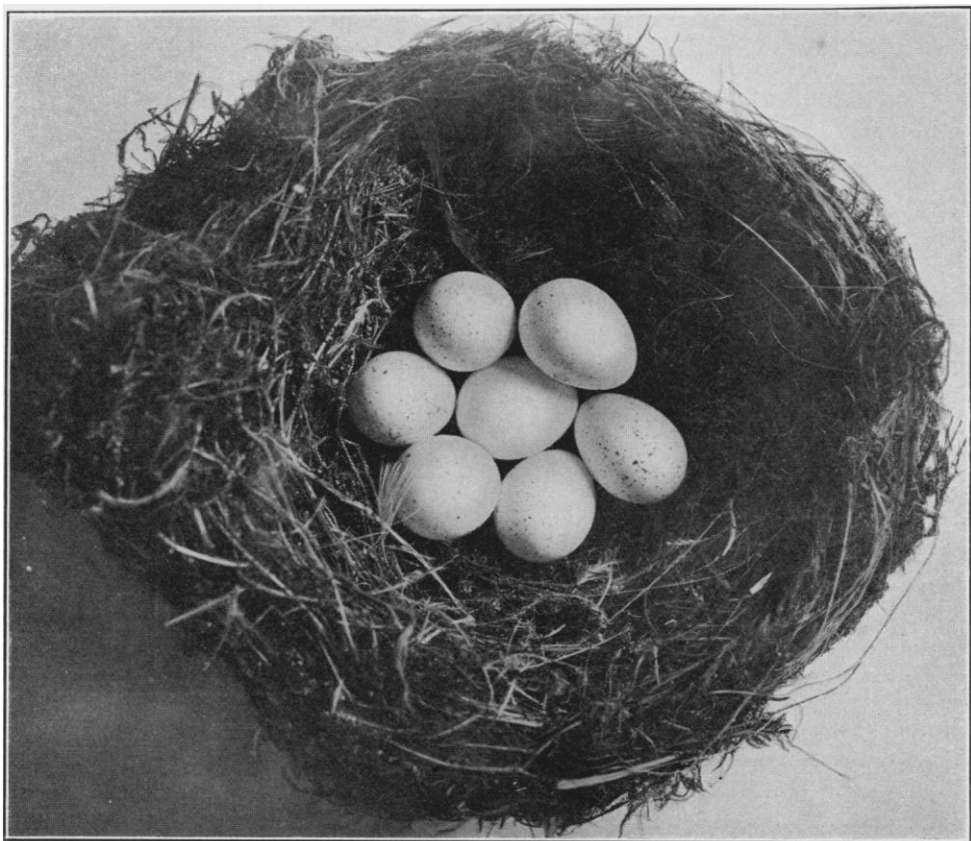


Fig. 9. EGGS OF ALASKA WREN; NATURAL SIZE.

ports that "according to the Aleuts, it lays six eggs".

As noted by Allen, the eggs are white with a slight gloss, and are more or less peppered with reddish dots. These markings are described as being "so few and small as to be easily overlooked", but this is certainly not the rule. The set shown in the accompanying figure (kindly photographed by my friend and colleague, Prof. R. W. Doane) may be considered typical, and, as indicated, the spots are clearly in evidence on every egg. The average size of thirteen eggs is 17 mm. by 13 mm. The largest is 18 mm. by 14 mm., while the smallest measures 14 mm. by 13.5 mm.

As nearly as I can judge from one pair of wrens, the period of incubation lasts eleven days, and the young in this same nest were fed for twenty-two days. When the eggs are hatched the male abandons his usual haunts, and with his mate collects insects from foggy morn to yet more foggy eve. When this brood is dismissed a second one may be reared the same season. In 1918, for example, Mr. E. C. Crompton, government agent on St. George, reported to me the discovery of a nest that was left by the young about the middle of July. During the following week the female deposited a second set of eggs.

Such in brief, is the biography of the Alaska Wren, otherwise known in native parlance as the "limmershin" or chew-of-tobacco. A veritable pigmy he is when compared with other species comprising the feathered hordes that repair to the cliffs of St. George Island; but none battles more valiantly with the elements, or labors with greater industry, or contrives with a higher degree of cunning to protect his home, than does this tiny denizen of the frozen north. "May his tribe live long and prosper".

Stanford University, California, February 6, 1920.

AUTOBIOGRAPHICAL NOTES

By HENRY WETHERBEE HENSHAW

(Continued from page 10)

TRIP THROUGH THE NORTHWEST IN CONNECTION WITH THE TENTH CENSUS

IN THE FALL of 1880 and the spring of 1881 I made an extensive trip through the northwestern states and visited all the Indian reservations in Utah, Nevada, Idaho, Oregon, Washington, and California in connection with a census of the Indian tribes, which had been put in charge of Major Powell. He saw in it much more than the opportunity to obtain an accurate enumeration of the Indians of the United States, and expected to secure important information on the present status of the tribes, their advance in civilization and education, their future needs, and much ethnologic and anthropologic data for study and publication. A large amount of miscellaneous information was in fact gathered on carefully prepared schedules, but lack of funds prevented its ultimate elaboration into published form.

AM ARRESTED AND FINED

While in Oregon an amusing incident occurred by which I fell into the clutches of the law, the first and only time in my long experience as a bird collector. Being detained in Albany, Oregon, for a few days because of a flood which interfered with the operation of the stages and railroads to the south, I employed an hour's leisure in collecting a few birds on the outskirts of the town, by no means so large then as now. Fate played me a sorry trick by leading me to collect a number of curious looking Shore Larks directly in front of the house of the constable, who proceeded to instill the fear of the law into my heart by a fine of ten dollars. As, however, the birds subsequently proved to